

SPECIFICATION TS66 Energy Casement Window

The AMS Thermstrip 'TS66' window system offers unique patented architectural design features combined with market leading thermal performance.

This thermally broken casement window system combines polyurethane resin with an multi chamber isolator core which assist in meeting and exceeding the thermal requirements of the current building regulations.

Introduction

The suite of profiles has equal leg and unequal leg sections to accommodate all anticipated framing options. Various other profiles can be designed and incorporated allowing architects to achieve flexible project specific designs. The system can be glazed both internally and externally with double & triple glazed units from 28mm, through to 48mm with fixed pane; side hung, top hung and open in and out configurations.

Thermal Performance

Thermstrip TS66 is designed to offer the specifier excellent aluminium thermal u-frame values in conjunction with the correct glass specification to achieve overall target u-values or equivalent energy ratings on specified projects.

Scope

This specification defines materials, fabrication, paint finishes, and size limitations for casement windows.

Materials

Aluminium profiles are extruded from aluminium alloy 6063 T5 and T6 complying with BS1474 - BS EN 12020-2:2001 / BS EN 755-9:2001.

Paint Finishes

Polyester Powder Coatings

Aluminium profiles can be dual colour polyester powder coated to EN 12206:2004.

AMS offers in house painting with the following paint suppliers -

- Interpon D - Azko Nobel
- DuPont - Alestia
- Beckers.

Pre-treatment is an 8 stage, chromate free, process and a 25 year guarantee is offered.

Projects in close proximity to marine/ hazardous environments will require special application for guarantee prior to painting any material.

Decoral

Aluminium profiles can be polyurethane powder coated with a woodgrain effect paint finish to EN 12206:2004.

Anodised

Aluminium profiles can be anodised to BS3987.

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Fabrication

Frame members shall be mitre cut at 45° and corners are reinforced with extruded aluminium crimping cleats and corner braces. A secure joint is achieved by means of a mechanical crimp along with the insertion of a two part epoxy adhesive. Intermediate mullion and transom bars shall be square cut shaped and fixed securely to the frame by means of a new fixing bracket tapped into the polyurethane resin with a stainless steel screw. All frame joints shall be sealed during construction against entry of water using a suitable small gap sealant.

Glazing

Glass shall be set against EPDM gaskets externally which are fitted into gasket grooves in the frame and gaskets shall be manufactured BS4255. Internal vulcanised, EPDM corners, to be used around sash profiles for improved air and water tightness. Gaskets to be designed so as they are easily replaceable, if required, during scheduled maintenance work and EPDM gasketry offers a 10 year warranty.

Snap in glazing clips shall be utilized to hold glazing beads in place.

Glazing shall be to BS 6262:2005 part 1 - 7, and Building Regulations Document N (UK). For internal glazing, the TS66 reverse butt crimp window should be utilised, which gives excellent thermal performance whilst retaining the slim slight lines of the TS66 system and eliminates the requirement for scaffolding or lifting equipment for replacements.

Installation

AMS offer detailed installation instructions on all systems and these should be followed as per AMS's technical department's recommendations.

Casement Window Fittings

The system is designed to suit heavy duty, 17mm stack height, friction hinges in conjunction with either cockspur handles or an espagnolette multi point locking. For larger sashes an espagnolette all round perimeter multi- locking system can be used and has enhanced security features.

Friction hinges

Friction hinges are heavy duty and are supplied in different length up to 28". Hinges have a stack height of 17mm and are available in restricted or non restricted options. Heavy duty hinges are manufactured from high grade austenitic steel and have been proven to a lifetime of 50,000 cycles.

Opening Vents - Top Hung Open out Casement

Maximum Opening Vent Height:	2200mm
Maximum Opening Vent Width:	1500mm
Maximum Opening Vent Weight:	100KG

Opening Vents - Side Hung Open out Casement

Maximum Opening Vent Height:	1620mm
Maximum Opening Vent Width:	760mm
Maximum Opening Vent Weight:	42KG

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Structure

Section performance requirements must be calculated from site conditions and all loading requirements. All structural profiles shall be designed so as the maximum deflection of any member shall not exceed L/175 of its span and there shall be no evidence of any permanent deformation once the load has been removed. Exposure categories to be determined by BS 6399 Part 2: 1997 or 6375: 2204 for low rise applications.

Performance

The window system has been fully tested to the following exposure categories and standards. The tests were undertaken at the BBA test laboratory in the UK. Reports are available upon request. All windows are fitted with a central co-extruded seal between the sash and the frame. This provides a 3 chamber seal which greatly improves the weathering and thermal performance of the system.

Tested to BS 6375-1 2004.

Air Classification - A4: 600 Pa.

Water Tightness - E1050: 1050 Pa.

Wind Resistance - 5A: 2000 Pa.

Thermal Performance

The TS66 window system can achieve frame values up to 1.2 W/m²K, depending on the positioning of specific thermally enhancing foam separators and warm edge spacer bars. Window and project U-values can be calculated and compliance demonstrated using V6 software or finite element analysis software 'Bisco'. AMS are certified by the BFRC (British Fenestration Rating council) for carrying out thermal simulations and energy rating of window systems and doors. This ensures correct methodology for calculating the thermal performance of window products.

Security

The AMS Thermstrip TS46 / 66 casement window has passed the security test BS7950 incorporating the enhanced security standard which is known as Secured by Design. To conform to this standard the window system must be fitted with Cotswold heavy duty hinge, HD28, self balancing stays, Seigenia Aubi espagnolette all round multi-locking gear with mushroom heads and is also internally glazed.

The AMS thermstrip TS46 / 66 security casement window offers additional market leading performance levels as follows:

Air classification to 1050Pa - class 4

Water tightness - 1050Pa - Class E1050